BROWN AND CALDWELL
Environmental Engineering & Consulting

October 15, 2001

Ms. Tracey T. Piccone, P.E.
Senior Environmental Engineer
South Florida Water Management District
P.O. Box 24680
West Palm Beach, Florida 33416-4680 21853-02

Subject: Basin Specific Feasibility Studies
Peer Review of Evaluation Methodology

Dear Ms. Piccone:

Brown and Caldwell and members of our subconsultant team have reviewed the document entitled "Review Draft – Evaluation Methodology for the Water Quality Improvement Strategies for the Everglades" prepared by the South Florida Water Management District (District) and dated August 31, 2001. We have also reviewed the comments on the Evaluation Methodology that were reported in the minutes from the September 17, 2001 STA Design Review Staff Meeting. The following summarizes the major comments resulting from our review.

General Comments

1. Most of the evaluation criteria appear to be designed for assessment of a single technology as was the case with the STSOC. The alternative combinations of water quality solutions will most likely involve more than one technology and, where this occurs, we are concerned that consistent scores will be assigned for the qualitative evaluation criteria. Given that two contractors have been assigned this task, the District will need to make sure that consistency prevails throughout the scoring of alternatives for the ECP and ESP basins.

2. Others have suggested previously that the current scoring system of 1 to 10 for qualitative criteria be modified to –5 to +5 to reflect a negative condition or impact when it occurs. We agree with this suggestion.

3. It is unclear from the Evaluation Methodology document how the initial weighting of evaluation criteria will be accomplished. Will the BC team have any input to the weighting of evaluation criteria in the ESP basins?

Comments Specific to Section 3.2 – Evaluation Criteria

1. Page 13-14, Section 3.2.1, Technical Performance Evaluation Criteria Nos. 1-2. Criterion No. 1 assesses phosphorus load reduction on a percentage basis compared to the baseline data set. Criterion No. 2 is similarly calculated as the percent reduction in the average annual flow weighted phosphorus concentration. However, the score for Criterion No. 2 is given as the actual average annual phosphorus concentration achieved by the alternative over the 30-year period of record. Suggest changing the title of Criterion No. 2 from "Level of Phosphorus Concentration Reduction" to "Average Annual Phosphorus Concentration Achieved" to compare more favorably with the score being given and to reflect more clearly how well an alternative is expected to perform against the 10 ppb phosphorus concentration goal.

2. Page 14, Section 3.2.1, Technical Performance Evaluation Criterion No. 3. Time to produce a stable treatment system, assuming start of design on January 1, 2003, is a valid evaluation criterion. Others have suggested previously that a positive value be placed on completion prior to December 2006 and a negative value be placed on completion after December 2006. We agree with this suggestion. This value could be assigned using +5 to –5 scoring in the evaluation (December 2006 completion = 0) as opposed to scoring only by the number of years to complete.

   Also, in the example calculation for this criterion, delete the words "and land acquisition" from the last sentence of unbold text. Land acquisition was included in the estimated 3.5 years to complete the project.

3. Page 16-17, Technical Performance Evaluation Criterion No. 6. Suggest the following clarifications to the scoring system for this criterion:

+3 to +5	Alternative has been successfully constructed and operated at the proposed scale.
0 to +2	Alternative has not been successfully constructed and operated at the proposed scale, but scale-up data is available to suggest that problems should not be expected.
-5 to –1	Alternative has not been successfully constructed and operated at the proposed scale and there is limited or no scale up data available.

4. Page 17, Technical Performance Evaluation Criterion No. 7. Determining net positive or negative impacts from side stream flows, such as seepage, will be difficult if specific sites are not being considered, as will be the case in the ESP basins. Is it reasonable to assume that seepage will be returned to the treatment system in these cases? And if so, should seepage return become the standard for evaluation?

5. Page 18, Environmental Evaluation Criterion No. 2. It has been suggested by others previously that there is not sufficient data available to base sound judgements on all of the items identified in Table 4 (page 19). We concur with that assessment. However, if the District, FDEP and EPA can agree on a modified (reduced) list of items, we believe that the criterion adds value to the evaluation. No other criterion captures the environmental impact considerations that this criterion does.

6. Page 20, Section 3.2.3, Economic Evaluation Criteria Nos. 1-3. At the end of the first paragraph, add the words "…over 50 years". Also, others have previously suggested that the economic criteria should reflect the marginal cost of phosphorus reduction at different phosphorus concentrations to capture the increased marginal cost at lower concentrations. If the evaluations involved single technologies, this would be meaningful in the evaluation of cost versus performance of these technologies. In our opinion, the value of this additional economic criterion loses much of its value, since the alternatives will all involve combinations of technologies, will all be starting with the same influent P concentration for a given basin, and will all be achieving effluent P concentrations in the same range.

7. Page 21, Section 3.2.4, CERP Evaluation Criteria Nos. 1-3. These three evaluation criteria are intended to assess the impact of CERP integration on the cost, the implementation schedule, and the water quantity, distribution and timing of the alternatives being evaluated. In our opinion, these criteria duplicate Economic Criteria Nos. 1-2, Technical Performance Criterion No. 3 and Technical Performance Criterion No. 4, respectively. We suggest having a single criterion for CERP integration with a score of "0" if there is no integration with CERP and a score of "1" if there is integration with CERP. This approach allows the economic and technical performance criteria to illustrate differences between alternatives with respect to cost, schedule, etc., regardless of whether there is CERP integration or not. It also gives credit to alternatives that integrate CERP projects without penalizing alternatives that do not. The value of the credit can be adjusted for each basin using weighting factors.

Comments Specific to Section 3.3 – Key Uncertainties

1. Page 25, Section 3.3.1, Proposed Approach. The proposed approach seems reasonable for non-ECP basins. However, for ECP basins, the discussion appears to indicate that only the existing footprints of the STAs will be considered. If there is additional land available adjacent to the existing footprint, wouldn't expansion of an existing STA be a possible alternative for achieving the lowest P concentration possible?

2. Page 25-26, Section 3.3.2, Proposed Approach. The proposed approach should reference the BMP guidance document being prepared by the District as a reference for BMP cost and performance estimates.

3. Page 27, Section 3.3.6, Proposed Approach. The proposed approach is good. However, it is not clear to which evaluation criterion the "compatibility" issue applies, if any of them. It could apply to Environmental Evaluation Criterion No. 1 (compliance with water quality standards). It could also be a component of a modified Environmental Criterion No. 2. Or, it may be intended that the issue not be included in either of the environmental evaluation criteria. The Evaluation Methodology should clarify if and how the "compatibility" issue is to be included in the Basin Specific Feasibility Study evaluations or whether it is an independent issue to be addressed by FDEP whenever an acceptable definition for "compatibility" has been developed.

Summary

We hope our comments will be of value to the District in finalizing the Evaluation Methodology. We will be glad to discuss any of them with you and other District staff at your convenience. In the meantime, if you have any questions, please do not hesitate to contact me.

Very truly yours,

BROWN AND CALDWELL

James A. Nissen, P.E., DEE
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JAN:mw
Enclosures (1)

cc: Angela Berry, Brown and Caldwell
Arsenio Milian, Milian Swain & Associates, Inc.
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